

Abstract:

A novel 13-residue peptide Mo1659 ~~has been~~is isolated from the venom of a ~~vermivorous~~the cone snail, *Conus monile*. HPLC fractions of the venom extract yielded an intense UV absorbing fraction with a mass of 1659 Da. De novo sequencing using both-matrix assisted laser desorption and ionization and electrospray MS/MS methods ~~together with~~ analysis of proteolytic fragments ~~successfully~~ yielded the amino acid sequence, FHGGSWYRFPWGY-NH₂. ~~This was further~~ (SEQ ID NO: 1), confirmed by comparison with the chemically synthesized peptide and ~~by~~ conventional Edman sequencing. Mo1659 has an unusual sequence with a preponderance of aromatic residues and ~~the~~ absence of apolar, aliphatic residues like Ala, Val, Leu, Ile. Mo1659 has no disulfide bridges, distinguishing it from the conotoxins and bears no sequence similarity with any of the acyclic peptides isolated thus far from ~~the venom of cone snails~~cone snail venoms. Electrophysiological studies on the effect of Mo 1659 on measured currents in dorsal root ganglion neurons suggest that the peptide targets non-inactivating voltage dependent potassium channels.